

MISSOURI. Conservationist

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Missouri Majesty

Something wonderful happens in Missouri each fall. September begins with a flurry of fall activities — a new school year, football season, family barbecues — but there is a subtle, yet significant,

change happening in the background. Missouri is transitioning from a landscape of green to a vibrant autumn hue. For a state with abundant trees and forests, when the fall colors peak, it is a majestic sight to behold.

A must-see annual fall event is the Department's Poosey Conservation Area driving tour near Chillicothe in northwest Missouri. Thousands of people journey to the area in October for a scenic tour of the 5,900-acre area. There are key stops along the way, highlighting how conservation practices on the area benefit wildlife, forestry, and native plants. Down south in the Ozarks, we also have another great scenic driving tour at Peck Ranch Conservation Area, but among the fall colors, you also get to see and hear the distinctive bugling of elk in October. Perhaps a little subtler, but still just as spectacular, are the colors of native grasslands in the prairies around our state. All of these opportunities provide a chance to see Missouri conservation at its finest — abundant, thriving, and up close.

Although more than 90 percent of Missouri's land is privately owned, part of the Department's mission is to provide outdoor opportunities on public lands for citizens to enjoy year-round. The Department holds 800,000 acres in public trust for conservation and public use across the state, which may seem like a large number, but only represents less than two percent of Missouri's total state acreage. These areas provide recreational opportunities for fishing, hiking, hunting, wildlife watching, camping, boating, shooting, and conservation education for all ages. Conservation areas also provide a unique opportunity to conserve natural diversity and, at the same time, provide conservation-related recreation and education opportunities. Surveys continue to show strong citizen support for maintaining, and even expanding, the number of



The gentle air and bright hues of autumn create the perfect backdrop for outdoor pursuits.

acres of public land available for all to enjoy.

Even with Missouri's diverse urban and rural populations, most Missourians live within 30 miles or less of a conservation area. You may be familiar with conservation areas nearby, but there are still more conservation areas around the state to be discovered. The Department has a convenient Conservation Area Atlas online (mdc.mo.gov/atlas) where you can search conservation areas by county or region, as well as browse recreational opportunities available and driving directions for each of those conservation areas.

Whether you like to hike a trail, watch birds, take photos, fish, hunt with family, learn new outdoor skills, or enjoy the sunset from a scenic bluff, the Missouri outdoors is the place for you. There is no better or more beautiful season than right now to discover nature. We have nearly 1 million acres waiting for you. Get exploring!

Robert L. Ziehmer, director

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by Mark Goodwin

Once you try it, you may find waterfowling eclipses all other hunting experiences

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by Gladys J. Richter

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by Erin Shank and Joe DeBold, photographs by Noppadol Paothong

Managing deer in urban and suburban areas promotes safety and makes better use of the resource

Cover: Opening day of teal hunting proves successful. Photograph by David Stonner. For the basics of waterfowl hunting, read *Waterfowl Hunting: Getting Started* beginning on Page 10.

📷 70–200mm lens • f/4.0
1/640 sec • ISO 320

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WHAT IS IT?

Our photographers have been busy exploring the intricacies of outdoor Missouri. See if you can guess this month's natural wonder. The answer is revealed on Page 7.



CHRIS LUKHAUP

HELPFUL SNAKE INFO

I love your magazine. Over the years, I have enjoyed many articles/pictures. Many, many years ago, you printed an insert, *Snakes of Missouri* [April, 1980]. I kept it since we lived in a wooded area and had small children. Little did I know it would come in handy recently. My husband was grilling and stepped outside by a copperhead; it bit him on the heel. Thanks to your magazine (with pictures), I was able to determine the kind of snake for the poison hotline. My husband, turns out, had a dry bite, and is fine. Thank you for your great magazine.

Kimberly Saucier, via email

CAMPFIRE COOKING

Enjoyed your article on campfire cooking [*Campfire Cooks of MDC*, July], but you left out one of the easiest and tastiest campfire recipes. My father taught us to cook potatoes in the fire. When your fire is good and hot with plenty of coals, you just throw baking potatoes right in without foil. Turn once or twice and after 30 to 45 minutes you end up with what looks like charcoal. When you take them out, cut them in half and put butter, salt, and pepper on them. They are wonderfully smoky. Best baked potatoes ever (don't eat the skin).

Michael Fink, via email

PORTRAIT OF A LIZARD

I was so delighted to see one of my favorite Missouri creatures make the cover of the June issue, highlighting *The Rebound of the Eastern Collared Lizard*. I wanted to let you know that one of our Missouri "mountain boomers" is an international ambassador for conservation! My oil portrait of a little fellow my family and I discovered on a hike at Taum Sauk Mountain traveled to Vancouver in August to start a year-long tour promoting conservation as part of the Artists for Conservation 2015 International Juried Exhibit of Nature in Art. A portion of the proceeds from the sale of this work will go to support the work of the Missouri Prairie Foundation. Glad the beautiful "boomer" is finally getting his due! Information on the 2015 exhibit can be found at artistsforconservation.org. Keep up the good work!

Rob Dreyer, via email

LONGTIME READER

When I was in the fourth grade in 1955, one of our homework assignments was to subscribe to the *Missouri Conservationist* magazine. When I got married, I changed my name and the magazine kept coming as it did through several moves. I have read the publication cover to cover for 60 years now and have always enjoyed the letters, photos, and articles. I just wanted you to know how much I've enjoyed it through all these years.

Patricia Antle, Exeter

CORRECTION

On Page 30 of the August 2015 issue, we misidentified the flower featured in *Plants & Animals*. The photo shows the stiff sunflower (*Helianthus pauciflorus*), not the bristly sunflower (*Helianthus hirsutus*). We regret the error.

CLARIFICATIONS

The answer to August's *What Is It?* [Page 8] stated, "Copperheads live on rocky hillsides and

along forest edges in the northern two-thirds of the state." The sentence should have read, "Osage copperheads live on rocky hillsides and along forest edges in the northern two-thirds of the state. The southern copperhead subspecies *Agkistrodon contortrix contortrix* is found in the remaining third of the state."

The *Ask MDC* section [Page 5] of the August issue stated, "Northern goshawks tend to maintain between one to eight nests within an area. While they may use the same nest more than once, they typically alternate between more than two nests. Scientists speculate it might be a way to avoid disease and parasites." That information is correct; however, Northern goshawks do not nest in Missouri. They are rarely seen in Missouri, but venture here in winter when hare populations are scarce in their typical habitats — the extreme northern United States, Canada, and western states.

Reader Photo



AN UNUSUAL PLANT

Debbi McCaul photographed this Indian pipe plant on her farm in northwest Phelps County. Indian pipe is unusual because it lacks chlorophyll, making it white instead of green like other plants. The plant cannot make its own food, so it takes nourishment indirectly from tree roots, which are joined to the plant's roots underground by fungi. McCaul said she loves nature photography and will go along on her husband's hunting trips to take photos. They enjoy walking on their property where they raise cattle and are trying to restore a small glade to create quail habitat.



DEPARTMENT HEADQUARTERS

Phone: 573-751-4115

Address: PO Box 180,
Jefferson City 65102-0180

REGIONAL OFFICES

Southeast/Cape Girardeau: 573-290-5730

Central/Columbia: 573-815-7900

Kansas City: 816-622-0900

Northeast/Kirksville: 660-785-2420

Southwest/Springfield: 417-895-6880

Northwest/St. Joseph: 816-271-3100

St. Louis: 636-441-4554

Ozark/West Plains: 417-256-7161

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ASK MDC

Phone: 573-522-4115, ext. 3848

Address: Ask MDC, PO Box 180,
Jefferson City 65102-0180

Email: AskMDC@mdc.mo.gov

EDITORIAL COMMENTS

Phone: 573-522-4115, ext. 3847

Address: Magazine Editor, PO Box 180,
Jefferson City 65102-0180

Email: Magazine@mdc.mo.gov

READER PHOTO SUBMISSIONS

Flickr: [flickr.com/groups/mdc-readerphotos-2015/](https://www.flickr.com/groups/mdc-readerphotos-2015/)

Email: Readerphoto@mdc.mo.gov

Address: Missouri Conservationist, Reader Photo,
PO Box 180, Jefferson City 65102-0180

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Missouri Department of Conservation: mdc.mo.gov

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Protection Larry D. Yamnitz

Resource Science Mike Hubbard

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CONSERVATIONIST STAFF

Editor Angie Daly Morfeld

Art Director Cliff White

Associate Editor Bonnie Chasteen

Staff Writer Heather Feeler

Staff Writer Kristie Hilgedick

Photographer Noppadol Paothong

Photographer David Stonner

Designer Stephanie Thurber

Circulation Laura Scheuler

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"Looks like Archie has croaked ... literally and figuratively."

Agent Notes

*From Gig to Fryer,
Missouri Style*



MANY SPORTSMEN AND women in Missouri wait for the month of September with great anticipation. Most of them will have Sept. 15 circled on their calendars. For anglers, it signifies the opening day of gigging season for nongame fish on Missouri's rivers and streams.

For gigging enthusiasts, ample opportunities abound for successful outings. We are fortunate to live in a state where ideal stream conditions often prove to be suitable for an exciting and memorable gigging experience.

However, Missouri waters should be respected, and not taken lightly. I cannot stress enough the importance of making safety your number one priority throughout your gigging activity, from planning your trip to returning home safely afterward.

Unfortunately, some years we experience accidents associated with gigging. Sadly, most of these incidents are boating accidents that can be avoided by simply checking and updating your equipment, wearing life jackets, and putting a seasoned boat driver in charge.

For more information on gigging seasons and limits, visit on.mo.gov/1MpTZqg. Life is precious, so wear a life jacket. It could just save your life. Good luck and see you out there!

Patrice Reese is the conservation agent for Crawford County. If you would like to contact the agent for your county, phone your regional conservation office listed on Page 3.

HUNTING & FISHING CALENDAR

FISHING	OPEN	CLOSE
Black Bass from Ozark Streams	05/23/15	02/29/16
Bullfrogs and Green Frogs	Sunset	Midnight
	06/30/15	10/31/15
Nongame Fish Gigging		
Impounded Waters	02/01/15	01/31/16
Streams	09/15/15	01/31/16
Paddlefish on the Mississippi River	09/15/15	12/15/15
Trout Parks (Catch-and-Keep)	03/01/15	10/31/15
HUNTING	OPEN	CLOSE
Coyote (restrictions apply during April, spring turkey season, and firearms deer season)	All year	None
Crow	11/01/15	03/03/16
Deer		
Archery	09/15/15	11/13/15
	11/25/15	01/15/16
Firearms		
Urban Zones Portion	10/09/15	10/12/15
Early Youth Portion	10/31/15	11/01/15
November Portion	11/14/15	11/24/15
Antlerless Portion (open areas only)	11/25/15	12/06/15
Alternative Methods Portion	12/19/15	12/29/15
Late Youth Portion	01/02/16	01/03/16
Doves	09/01/15	11/09/15
Groundhog (woodchuck)	05/11/15	12/15/15
Pheasant		
Youth	10/24/15	10/25/15
Regular	11/01/15	01/15/16
Quail		
Youth	10/24/15	10/25/15
Regular	11/01/15	01/15/16
Rabbit	10/01/15	02/15/16
Sora and Virginia rails	09/01/15	11/09/15
Squirrel	05/23/15	02/15/16
Teal	09/12/15	09/27/15
Turkey		
Archery	09/15/15	11/13/15
	11/25/15	01/15/16
Firearms	10/01/15	10/31/15
Waterfowl	see the <i>Waterfowl Hunting Digest</i> or on.mo.gov/1DChcmi	
Wilson's (common) snipe	09/01/15	12/16/15
Woodcock	10/15/15	11/28/15

For complete information about seasons, limits, methods, and restrictions, consult the *Wildlife Code* and the current summaries of *Missouri Hunting and Trapping Regulations* and *Missouri Fishing Regulations*, *The Spring Turkey Hunting Regulations and Information*, *the Fall Deer and Turkey Hunting Regulations and Information*, *the Waterfowl Hunting Digest*, and *the Migratory Bird Hunting Digest*. For more information, visit on.mo.gov/1Ulcnlw or permit vendors.

Ask MDC

Address: PO Box 180, Jefferson City, MO 65102-0180
Phone: 573-522-4115, ext. 3848 **Email:** AskMDC@mdc.mo.gov



Candy-striped leafhopper

What is this insect?

It's a candy-striped leafhopper (*Graphocephala sp.*). These insects sport a bold color palette infrequently seen in nature. They are members of the order Hemiptera, a group that includes thousands of species of cicadas, aphids, planthoppers, leafhoppers, shield bugs, and others. Leafhoppers feed on the foliage of many kinds of plants by piercing the plants' cells and sucking out the contents. These agile insects can move forward, backward, and sideways, like a crab. When threatened, leafhoppers

cock their legs and leap — sometimes 40 times their body length — so viewing them can be challenging.

While fishing the lower parts of Truman Lake during the summer, I often see large paddlefish jump completely out of the water. Why do they do this?

According to Fisheries Program Specialist Andrew Branson, scientists have offered several theories to explain why paddlefish jump from the water.

Some researchers think they jump to rid parasites from their bodies. Others believe that paddlefish appear to jump out of the water when they rise to feed on zooplankton, which school near the water's surface. Yet another theory is that weak electrical impulses from boats can disorient the fish, causing them to jump.

Is this snake eating another snake?

Yes. In this photo, a young speckled kingsnake is eating an adult midland brownsnake. Speckled kingsnakes — which kill their prey by constricting it — dine on rodents, bird eggs, small birds, lizards, and other snakes, including venomous ones. They are immune to the venom of Missouri's pit vipers. Generally speaking, a snake's lower jaws are loosely joined to the skull and its upper jaws are movable. A snake usually grasps its prey by the head and engulfs it by advancing first one side of the jaw and then the other. Their teeth — sharp and curved toward the rear of the mouth — help them hold their victims firmly, preventing escape. In this photograph, the speckled king snake will use its own spine, ribs, and muscles to force its prey's spine and body to bend into waves and compress like an accordion so it can be swallowed. It will then go off to a hiding place to digest its dinner away from predators and other threats.





Ruffed grouse

Grouse Habitat Starts With Forest Management

To some listeners, a drumming ruffed grouse sounds like a distant locomotive picking up steam, then speeding out of control.

Although not terribly loud, the sound of a grouse's drumming can travel on a clear day nearly a quarter-mile through the forest understory.

The sound is rare in Missouri today. Historically, ruffed grouse were found throughout much of Missouri. But due to habitat loss, their numbers dwindled.

But grouse supporters — including the Missouri Department of Conservation, the Missouri Grouse Chapter of the Quail and Upland Wildlife Federation (QUWF), and private landowners —

hope to turn that around with a restoration plan that focuses on creating better habitat.

"Grouse prefer young forests. Ones with 5- to 15-year-old trees are perfect," said Jason Isabelle, a Department resource scientist. "Such habitat provides adequate canopy to shield grouse from avian predators like hawks. But their habitat is declining and has been for quite some time."

Like much of the Midwest, Missouri's forests have matured over time and are not being replaced by the creation of young forests.

Timber harvesting can help renew old forests. It makes gaps in the forest canopy and is a great

way to create habitat for many native Missouri species, including grouse.

"When we're harvesting timber, we're replicating natural disturbances like wildfires that were historically responsible for creating areas of forest regeneration," Isabelle added. "If done properly, it's a great way to regenerate oak-hickory forests in Missouri, and it's one of the best ways to create grouse habitat."

Since 1959, more than 5,000 grouse have been released in Missouri. Although many releases seemed successful initially, most populations have not shown the ability to persist, Isabelle said, and grouse are once again in decline.

Research conducted in 2011 by the Department and the U.S. Forest Service indicated sufficient grouse habitat didn't exist in the River Hills region of east-central Missouri, but it also showed a grouse population likely could be sustained if additional habitat were created.

Since this study, the Department has been working to substantially increase the amount of young forest habitat at two Warren County sites, Little Lost Creek and Daniel Boone conservation areas.

"Our staff took a hard look at their conservation area management plans and reworked them to emphasize young forest habitat," Isabelle said.

To complement the effort, the Department and members of the Missouri Grouse Chapter of QUWF have been working to develop a private landowner cooperative in portions of Warren, Montgomery, and Callaway counties.

Spanning a 90,000-acre swath of hilly bluff-top property bounded by the Missouri River and I-70, the cooperative will bring landowners together to learn how to create the habitat ruffed grouse so desperately need, Isabelle said.

"Once enough habitat is available, grouse restoration could start in the next few years," Isabelle noted. "A lot of species, in addition to grouse, depend on young forests and many of them are declining as well. The creation of young forests is a great way Missouri landowners can improve habitat for wildlife."

Website Redesign Revealed

The Missouri Department of Conservation rolled out the first phase of an extensive website redesign this summer. The Department's two most

popular sections, *Hunting/Trapping* and *Fishing*, were the first to go live in mid-July.

"With assistance from public surveys and extensive user testing, these sections have been completely retooled to provide a better user experience," said Chris Cloyd, digital communications manager.

The new hunting and fishing sections, which can be found at mdc.mo.gov, feature numerous improvements, including:

- Species A to Z, an in-depth guide to every harvestable species
- Seasons, a comprehensive listing of fishing, hunting, and trapping seasons
- Regulations, a one-stop shop for regulation information

Making the Department's website more mobile-friendly is a key goal, Cloyd added.

The next phases the public can expect are upgrades to the *Discover Nature* and *Your Property* sections.

The Department Copes With High Water

Excessive rain and flooding created challenging conditions this summer for Missouri Department of Conservation staff, who worked long hours maintaining hatcheries, helping with rescue efforts, and cleaning up debris.

Despite a July 7 deluge so severe it made national media reports, not a single fish was lost from Roaring River Hatchery, Manager Paul Spurgeon reported. Three days later, anglers were once again reeling in rainbow trout from the site's waters.

Other hatcheries faced similar conditions earlier in the summer, when flooding hit Meramec Spring Park in Phelps County, Bennett Spring State Park on the Laclede-Dallas County line, and Montauk State Park in Dent County.

At Meramec Spring, 8 inches of rain in a two-day period in June submerged much of the park under 2 feet of water for a brief time. Although Bennett Spring lost a small number of trout, Montauk suffered no losses.

"We were able to keep things running smoothly because of the diligent work that our staff provides, constantly monitoring changing conditions at the hatchery," said Mike Perry, assistant hatchery manager at Bennett Spring.

At Roaring River, a series of floodgates regulate the spring's flow into the hatchery's pools. The flow into these pools must remain constant to ensure trout survival. Keeping oxygen levels constant and preventing silt from washing into raceways are also concerns.

"In an event of this magnitude, our staff is here until things stabilize," Spurgeon said.

While hatchery staff tended to the trout, the Department's heavy-equipment operators pulled debris out of the stream and cleared it away from banks and bridges, filling washouts along the stream and repairing roads.

During the week of the Roaring River event, crews moved 1,400 tons of rock and gravel and hauled away 20 loads of debris.

In nearby Cassville that same week, conservation agents were involved with flash flood-related emergency response duties, including the

rescue of an elderly woman trapped in her home.

"The water was pretty treacherous," said Conservation Agent Andrew Barnes, who assisted with the rescue at the request of local law enforcement agencies.

All agents receive swift-water training while enrolled in the Department's academy, but 28 agents statewide are certified in advanced swift-water rescue training.

In Christian County, an unstaffed shooting range at Busiek State Forest and Wildlife Area closed temporarily when high water detached a footbridge.

The Department Accepts Permit Images Through Mobile Devices

Missouri hunters, anglers, and trappers now can use electronic images of permits on mobile devices as legal, valid permits beginning July 30.



WHAT IS IT?

Long-Pincered Crayfish | *Orconectes longidigitus*

The largest crayfish in Missouri, this colorful crayfish is characterized by long, slender, blue-green pincers that are studded with prominent yellowish knobs. The favored habitat is moderately deep pools along bluffs where rock slabs and large rubble provide crevices for hiding during the daylight hours. At dusk, it emerges to forage over the stream bottom. This species is omnivorous and does not hesitate to capture and consume other crayfish if the opportunity arises. The long-pincered crayfish occurs only in the White River basin of southern Missouri and northern Arkansas. Substantial populations of this species also occur in Table Rock Lake.

—photograph by Chris Lukhaup

[NEWS & EVENTS]

(continued from Page 7)

Prior to this, hunters, anglers, and trappers had to have paper copies of permits on them when pursuing these activities.

For fishing permits and most hunting permits, an electronic image of the permit, such as a PDF (Portable Document Format), on a mobile device

will be sufficient, with the exception of deer and turkey permits.

Deer and turkey hunters must void their permits after harvesting related game animals and report their harvests using the Telecheck harvest reporting system.



Sign Up Now for Hunter Education

With fall hunting seasons just around the corner, September is a great month to sign up for a Missouri Hunter Education course.

Classes are available all year long, but they fill up quickly in the weeks prior to deer season. Hunters can beat the rush by signing up sooner rather than later.

The course is divided into two sessions: knowledge and skills. Both are mandatory to earn the final hunter education certification.

Participants can acquire the knowledge component in one of three ways:

- Attend a four-hour classroom session.
- Complete an interactive, online course for \$15, which is paid to the course provider.
- Read a study guide that is available at all Missouri Department of Conservation offices or online.

To gain entry to the four-hour skills session, participants must present their completed study-guide review questions or a printed copy of the qualifier certificate from the online course.

Skills session instructors teach students gun-safety basics, such as how to handle, load, and unload a firearm; how to cross obstacles; and how to hunt from a tree stand.

To complete the skills session, participants must pass a 35-question exam.

To learn more about who should take hunter education and how to enroll, visit on.mo.gov/1LFGst1.

MO Hunting, the Department's free mobile app, lets deer and turkey hunters electronically void their permits and Telecheck their harvests directly from the app. It enables Missouri hunters, anglers, and trappers to purchase, view, show, and store current hunting, fishing, and trapping permits and associated details. It also shows permits purchased during the previous year. MO Hunting even uploads Telecheck confirmation numbers back to the mobile device and enables hunters to view details on all deer and turkey they have previously checked.

MO Hunting is available in the Google Play and iTunes stores. Get MO Hunting and learn more about the app at on.mo.gov/1g8g5Ah.

Deer and turkey hunters must still tag their harvested game if they leave the immediate presence of the animal. Hunters using paper permits may simply attach the voided permit to the animal's leg. The Department suggests sealing the paper permit in a zip-top bag and attaching the bag with string, wire, or tape. Hunters using the MO Hunting app must attach a label with their full name, address, permit number, and date of harvest to the deer or turkey's leg if they leave the animal unattended.

After being Telechecked, properly tagged deer and turkeys may be possessed, transported, and stored for processing.

Hunting and Fishing Day Events

Missourians from across the Show-Me State will join Americans nationwide in celebration of National Hunting and Fishing Day Sept. 26.

In 1972, President Richard Nixon proclaimed the first National Hunting and Fishing Day and urged citizens to join outdoor sportsmen and women in their support of the wise use of natural resources.

Today, the event is a chance for people to come together to celebrate everything they love about hunting, fishing, and the great outdoors. In the spirit of cooperation, the Missouri Department of Conservation has partnered with other organizations to host the following events:

In St. Louis, the Department is sponsoring "A Day at the Confluence" from 10 a.m. to 3 p.m. Sept. 26 at Columbia Bottom Conservation Area. Activities include archery, boat rides, and tree identification hikes. For more information about this event, visit on.mo.gov/1EjRxtp.

DAVID STONNER

DID YOU KNOW?

Conservation makes Missouri a great place to hunt.

Scheduling Youth Hunts

» **One of the Conservation Department's goals** is to provide quality hunting opportunities for Missouri's youth. The Department strives to minimize conflicts between youth hunt dates and holidays, but conflicts are sometimes inevitable for a number of reasons.

» **Youth hunting portions** must be held on weekends so youth can participate without missing school.

» **Several religious and secular holidays** occur within the brief time available for fall and winter hunting.

» **There are many opportunities** (but a limited number of weekends) for fall and winter youth hunting season portions, including those for deer (early and late), pheasant and quail, and waterfowl (in three different zones).

» **To maximize the chance of successful harvest**, youth hunting portions are typically scheduled before the opening of the regular season.

» **Fall 2015 and winter 2016** youth hunting season portions include:

SEASON/YOUTH PORTION	OPENS	CLOSES
Deer Early	10/31/15	11/01/15
Deer Late	01/02/16	01/03/16
Pheasant	10/24/15	10/25/15
Quail	10/24/15	10/25/15
Waterfowl North Zone	10/24/15	10/25/15
Waterfowl Middle Zone	10/31/15	11/01/15
Waterfowl South Zone	11/21/15	11/22/15

Kansas City-area residents can attend Family Outdoors Day from 10 a.m. to 3 p.m. Sept. 26 at James A. Reed Memorial Wildlife Area in Lee's Summit. At this cooperative event, which focuses on waterfowl-related sporting activities and wetlands education, Ducks Unlimited will offer free memberships in their Greenwing program. Elsewhere in the region, the Lake City Shooting Range in Buckner is offering free shooting opportunities from noon to 4:30 p.m. Sept. 26.

Branson residents and other visitors are invited to join the Department and Bass Pro Shops at Table Rock Lake for a weekend of outdoor sporting activities from 9 a.m. to 4 p.m. Sept. 12 and from 10 a.m. to 2 p.m. Sept. 13. This celebration features a pre-1840s mountain man rendezvous and Native American cultural village. Outdoor recreational activities include archery, air rifling, atlatl throwing, sling shooting, kayaking, paddle boarding, canoeing, and fishing. Visitors will also learn more about blacksmithing, weaving, and Dutch oven cookery. For more information, visit bit.ly/1fjsal9.

The University of Missouri South Farm Showcase, scheduled from 10 a.m. to 4 p.m. Sept. 26 in Columbia, is poised to draw large crowds once again. This year's event features a trained hawk demonstration, turtle and snake exhibit, Asian carp preparation and sampling, fishing activities, and information about Missouri's mammals. For more information, visit southfarm.cafnr.org.

Cast a line or hit a bull's-eye at the Cape Girardeau Nature Center from 1 to 3 p.m. Sept. 26. No registration is required, but opportunities are on a first-come, first-served basis. Staff and volunteers will provide help and all the equipment needed for fishing and archery.

Family Shoots Free Day is scheduled from 9 a.m. to 4:30 p.m. Sept. 26 at the Andy Dalton Shooting Range and Outdoor Education Center in Bois D'Arc. Department staff will assist and provide instruction, but visitors will need to bring their own firearms and ammunition. Range fees are waived for the day.

Twin Pines Conservation Education Center in Winona is planning Family Fishing Day from 10 a.m. to 2 p.m. Sept. 26. Come wet your line in Mule Camp Pond. Join the fun with a variety of activities, including fishing, fish print T-shirts, pond study, casting games, and more. Prizes and

free food will be provided. No registration or fishing licenses required.

In Moberly, the Department is planning an archery tournament, snake exhibits, fishing activities, and more. The event takes place from 9:30 a.m. to 2:30 p.m. Sept. 26 at Rothwell Park.

Hunting enthusiasts 11 years old or older can polish their skills Sept. 18–20 in Bourbon. A Family Hunting Skills Weekend, featuring courses in archery, shotgun, air rifle, trapping, and basic hunting, has been planned at Camp Mihaska Retreat and Conference Center. For more information, contact Eric.Edwards@mdc.mo.gov or call 573-522-4115, ext. 3295.

Grant Money Helps Rural Fire Departments

Missouri Department of Conservation foresters

delivered \$367,354 to rural fire departments this summer through a matching grant program.

More than 185 fire departments across the state received grants of up to \$4,000 to help purchase personal protective gear and firefighting equipment that will be used to fight both wildfires and structure fires.

To earn the grant money, rural fire departments had to match 50 percent of the funds provided by the Department and the U.S. Forest Service.

"For the rural fire departments, it is a lifesaver," said Lynndel Barnes, chief of the Ellington Volunteer Fire Department. "With the grant, we can purchase equipment we couldn't afford otherwise."

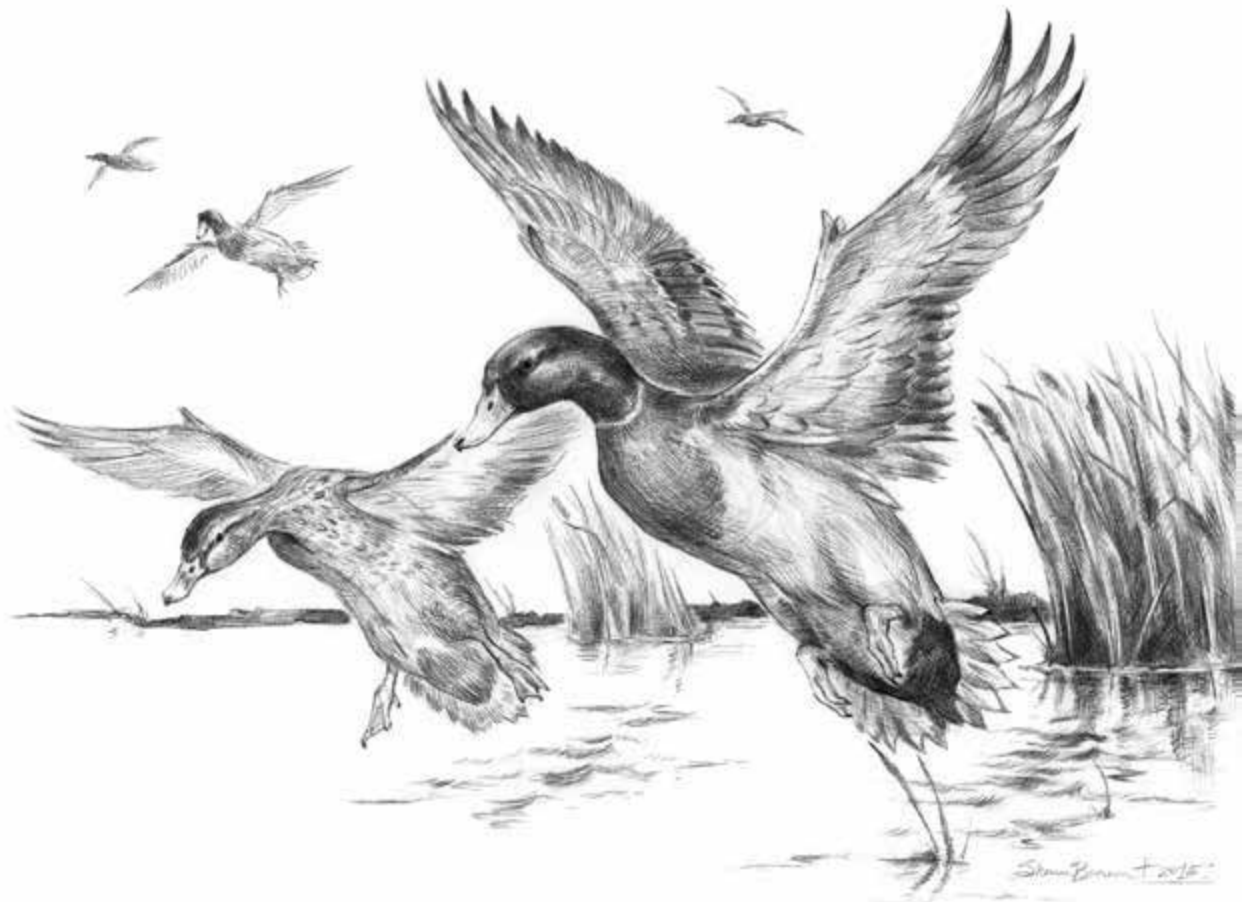
Over the past 30 years, more than \$7.5 million has been distributed to Missouri's rural fire districts through the Volunteer Fire Assistance Program.



WATERFOWL HUNTING: **Getting Started**

**Once you try it, you may find
waterfowling eclipses all other
hunting experiences**

BY MARK GOODWIN



“DUCKS! DUCKS!” THE HUNTERS WHISPER. TINY BLACK SPECKS APPEAR ON the horizon. Best eyes spot them first. Approaching fast, the ducks take form — mallards. At least 20.

Drawn by calls, decoys, and a field of flooded corn, the mallards circle high above, their wings pounding the air. Cold hands clasp cold shotguns.

Circling, circling, lower they come. A hen mallard calls as the ducks circle in from the left. One of the hunters whispers, “They’ll be at 35 yards when they make this pass. Should we take them?” “No,” comes a response. “One more pass and they’ll have feet down, ready to land in the decoys. We’ll shoot then.”

Out of sight behind the hunters, the ducks begin to circle. At 70 yards, they reappear — flying straight away. Frantic, the hunters grab calls, but it’s too late. The mallards fly on, become tiny black specks, then disappear.

“What could have spooked them?” one of the hunters asks. They study the blind. It’s good. Someone shrugs “who knows?” They stamp their feet to keep warm and scan the sky. Moments pass, then again comes the whisper: “Ducks! Ducks!”

This is waterfowl hunting. Like a religious experience, it can change you. Only if you have hunted waterfowl can you understand the draw of the sport — how it can eclipse all others. Wish to risk a case of waterfowl obsession? Here’s how to start.



Find a Mentor

To a beginner, waterfowl hunting can be intimidating. First, there are a number of seasons. There’s teal season in September, followed by the resident Canada goose season. Then comes the duck season, opening in three different zones across the state. Then there are separate seasons for Canada geese and brant, white-fronted geese, and light geese (snow, blue, and Ross’s). To abide by these seasons and bag limits, waterfowl identification skills are essential.

And you must throw into this mix the fact that regulations often change from year to year.

There are other concerns. Equipment can be extensive and expensive, but affordable options are available. Learning to call waterfowl requires much practice. Once you learn, then you must learn when and how often to call. In addition, public hunting areas are often large. Where are the best spots to hunt on an area? And what about decoys? How do you set up a decoy spread?

Blue-winged teal



Canada geese



Mallard





For help with all these matters, a veteran waterfowl hunter, serving as a mentor, is invaluable. How do you connect with one? If you hunt other game in Missouri, chances are you have a friend — or a friend has a friend — who is a seasoned waterfowl hunter. Most are willing to help hunters get started in waterfowling. All you need to do is ask.

Another option is to join a local conservation organization, such as Ducks Unlimited or Delta Waterfowl. These and other groups are flush with members who are eager to pass on the hunting tradition.

Mind Your Manners

Follow these points of waterfowl-hunting etiquette. Your mentor will appreciate it. In a permanent blind, corners are often the best spots because they offer a wider shooting angle. Though your mentor will probably want to give you a corner, be sure not to take one every time you hunt.

Assure your mentor that you will shoot only when he tells you. A common complaint among veteran waterfowlers is hunters who shoot when the birds are still too far away. The best waterfowlers get most of their ducks

Always hunt with at least one other person. Company makes the hunt more fun, and, in case of an accident, you'll have help.

at under 30 yards, with the birds coming in, feet down, preparing to land in the decoy spread.

If your mentor has a retriever, never be critical of its mistakes. Even well-trained retrievers have bad days. Most hunters are proud of their dogs and appreciate compliments for good dog work. Criticism, on the other hand, can produce hard feelings.

Putting together a waterfowl hunt often involves some expense and handling a lot of gear. Make sure you contribute. Offer to drive or pay for gas. If food is part of the day, be sure to bring some. Permanent blinds often have space for cooking, and during mid-morning lulls, the guy with the portable propane stove who fixes pancakes and bacon is well liked.

Get in Shape

Visit a public waterfowl hunting area during the pre-dawn draw for hunting spots, and note the hunters' physical



Hunters prepare for an outing at Eagle Bluffs Conservation Area, one of the 15 managed waterfowl-hunt areas in the state.

condition. Regardless of age, they tend to be fit. There's a reason: hunting waterfowl can prove physically demanding. Walking a quarter mile to a hunting spot in heavy waders through water and sucking mud, while dragging a layout boat loaded with decoys and assorted gear, will make any heart pound. It's best to have a regular schedule of aerobic exercise as part of your routine if you plan to hunt waterfowl, especially if you're 40 or older.

Practice Safety

Aside from being in good physical condition, there are other safety concerns that go with waterfowl hunting. One is hypothermia. Always wear lots of layers and bring a complete change of clothes. Layers can help you avoid



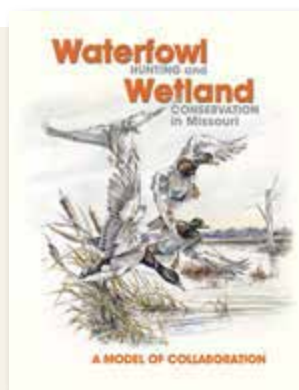
sweating during a hard slog, then having it freeze while you're waiting in the cold for the ducks to arrive. When hunting in cold weather over water, there is the chance of falling or stepping into water that goes over the top of your waders. If that happens, a change into dry clothes keeps you in the game.

Hunt with at least one other person. That way, in case of an accident, you have help.

Know the area you are hunting. If you're on a public area, and you don't know the spot you have drawn to hunt,

Support Waterfowl Conservation

Waterfowl Hunting and Wetland Conservation in Missouri — A Model of Collaboration is a must-have for all serious migratory bird hunters. All proceeds from this richly illustrated book's sales are dedicated to wetland and waterfowl conservation that benefits Missouri. The book is available for purchase through the Nature Shop at mdcnatureshop.com.



The cost of the Federal Migratory Bird Hunting and Conservation Stamps, more commonly known as "duck stamps," has gone from \$15 to \$25, the first price increase in more than 20 years. Many hunting, conservation, and wildlife-watching groups have

been asking for a higher priced duck stamp for more than a decade. This is because 98 cents of every dollar generated by duck stamp sales goes directly to purchasing or leasing wetland habitat. Since 1934, duck stamp funds have been used to acquire more than 6 million acres of wetland habitat, providing homes for countless wildlife species and places for hunters and other outdoor enthusiasts to enjoy. The \$10 increase will help protect an estimated 17,000 additional acres of habitat every year. Stamps are available at some U.S. Post Offices, Department of Conservation regional

offices, or online at on.mo.gov/1L1Bnwx. Online orders are charged an additional \$3.50 for shipping and handling.



Visit MDC's Waterfowl Hunting Web Page

Missouri's best public waterfowl hunting is found on 15 intensively managed wetland areas around the state. Visit on.mo.gov/1D6vFH3 to browse managed waterfowl-hunt areas and their morning draw procedure if they have one, as well as waterfowl reports, seasons, zone boundaries, and regulations.

Waterfowl season begins when ducks and geese are migrating in the fall. The season start is staggered between zones, with the northern zone of the state opening earlier than the middle and southern zones. This provides plenty of hunting opportunity as waterfowl migrate south across the state.

The specific dates and regulations are set in summer and are published in the *Waterfowl Hunting Digest*, which you can find online at on.mo.gov/1Kvgxp3 or anywhere hunting permits are sold.

out" in a certain field three days in a row, so you pick that field. If, however, you set up in the field in a spot waterfowl aren't using, you probably won't bag many.

Be Where the Birds Are

If you set up to hunt in an area, and notice that waterfowl are using a different section of the area — *move to that spot*. Never mind that you spook a few birds in the process and burn a little hunting time. Put yourself where the waterfowl want to be.

Hide

Once set up where waterfowl are, *hide yourself*. Even if it's shooting hours and birds are trying to work in, do a thorough job of concealment. Most novice waterfowl hunters overlook this point, and wonder why they have a hard time working ducks and geese into shotgun range. The answer is simple: the birds see them. If you are hunting from boats, cover them in dead vegetation found close by. Cover yourself, too. If sitting on a bucket among flooded corn, pull cornstalks around yourself. If you think you are well concealed, but waterfowl are still flaring from your

ask the area manager about ditches and other areas where water might suddenly get deeper. If you have to walk through water to your spot, use a walking stick to feel the depth of the water in front of you.

Large, permanent blinds often hold four hunters comfortably. With that number of hunters, acknowledging proper fields of fire is vital. Shooting toward another hunter will, at best, ring his ears — at worst cause injury.

Learn the Basics

As in all hunting, one of the most important keys to success is being where the game is, when the game is active. You may draw first pick at a public waterfowl-hunting area. Looking at posted records, you see hunters have "limited

Wood duck



Greater white-fronted goose



Snow geese



Cooking and Cleaning

When it all comes together, and you head home with waterfowl, it takes just a little knowledge to convert your birds to excellent table fare — with one exception. Mergansers are a group of ducks that eat only fish. The meat of mergansers is extremely fishy tasting.

Other ducks and geese, if cleaned and cooked properly, make for excellent eating. At home many hunters take a sharp knife and cut the breast meat off waterfowl, but you can also save the legs for braising. If any of the breast meat is bruised or bloodshot, cut it out.

People often complain that ducks and geese taste like liver. If that has been your experience, cut the breast meat into 1 to 1½ inch pieces and soak them in water for two or three days, changing the water twice a day. This will pull the blood out of the meat, which will remove much of the liver flavor.

With this done, marinate the meat in your favorite marinade, place it on kabobs flanked with cherry tomatoes and pieces of sweet peppers, fresh mushrooms, sweet onions, and fresh pineapple. Grill over a hot charcoal fire, two to three minutes a side, giving the meat a hard sear but leaving the inside pink and juicy. The results will please.



Duck kabobs

hunting spot, you probably haven't done a good enough job of hiding. Or you may be moving. When waterfowl are flying over, you must be absolutely still. Birds have the best vision in the animal kingdom.

Don't Over-Call

Calling waterfowl is an important skill, but many hunters overdo it. Listen to flocks of waterfowl and note how much they call. That's what you should imitate. Your calling should help waterfowl locate your decoys. Once accomplished, any more calling, if at all, should be limited.

When learning to call, give friends and family a break. Practice when you are by yourself. The sounds you make when learning to call ducks and geese will most likely fall outside the category of pleasant listening. You can find lots of videos of experienced waterfowlers showing how to call ducks on YouTube.

Set a Proper Decoy Spread

Learning to set out a proper decoy spread is simple. Place them in a loose horseshoe pattern, which gives waterfowl a patch of open water, somewhere around 30 by 30 feet, to land in. Place yourself 15 to 20 yards from the open water, facing it, with the wind to your back. This is important, because waterfowl prefer to land into the wind.

How many decoys you use is a personal matter. Some hunters use dozens; others use fewer. More important than number is decoy motion. If the day offers little

breeze, decoys will sit motionless, failing to attract waterfowl, which are drawn to the motions of live ducks. On such days, hunters often use motion decoys or jerk strings. If hunting in flooded timber, where ducks are less likely to see you, kicking the water often produces enough ripple effect to attract ducks.

Be Patient

Patience is another important facet of waterfowling. Often, at first light, waterfowl action is fast. After an hour or so, action slows. By 9 a.m., the sky may be devoid of waterfowl. Many waterfowlers assume action is over and head home. These hunters miss some of the best hunting. Though an hour or two may pass with no waterfowl, later flights frequently offer great action.

Watch the Weather

During waterfowl season, be a weather watcher. The majority of Missouri's waterfowl is migratory, breeding in the northern states and Canada, and flying south to overwinter. Often, just ahead of strong cold fronts, come flights of new ducks. Looking for places to rest and feed, they typically respond well to calls and decoy spreads. Usually, the nastier and more blustery the weather, the better the waterfowl hunt. ▲

Mark Goodwin is a retired teacher, avid outdoorsman, and freelance writer from Jackson, Missouri.

Finding and Raising a Good Retriever

Though not a necessity, a good retriever adds much to a duck hunt. There's great joy in watching a well-trained retriever practice its craft. There is also the practical benefit of having a dog retrieve your downed birds. A fine retriever, however, results from careful breeding and training. You can't just buy a retriever pup, feed it, and when it's grown, take it hunting. An untrained retriever will ruin a duck hunt, as will a hunter who spends his time whistling and yelling at such a dog.

Well-trained retrievers or well-bred pups are your best options for a waterfowl dog. Training involves knowledge and dedication to the task. There are many fine references for anyone interested in retriever training.



GATHERING NUTS ON CONSERVATION AREAS

Many Missouri conservation areas permit gathering nuts, berries, fruits, edible wild greens, and mushrooms for personal consumption, but some do not. Be sure to check the online Conservation Atlas at mdc.mo.gov/atlas for the regulations and contact info of the conservation area you plan to visit and call the area manager before heading out to foray for wild edibles.



NUTS ABOUT NATIVE EDIBLES

From walnuts and hickories to hazelnuts and pecans, Missouri forests harbor many delicious, protein-rich foods

BY GLADYS J. RICHTER

As I reached the overlook midway through the long hike, I felt my energy level plummet. One of my trail buddies commented that morning breakfast was a

distant memory. Soon we were all reaching in our packs for our trusty trail mix — a blend of energy-rich ingredients that for some included raisins and peanuts and for others a more exotic combination of fruits, seeds, nuts, and even chocolate.

How ironic to partake of this snack within one of our state's forests, which produce similar delicious, protein-rich foods. From walnuts and hickories to hazelnuts and pecans, there is a great bounty just waiting to be enjoyed. Late summer and early autumn outings are perfect for getting acquainted with the state's edible nuts. If you have yet to experience their rich flavors, at first taste you will wonder why you waited so long to give them a try.

BLACK WALNUT



MISSOURI LEADS THE WORLD IN BLACK WALNUT PRODUCTION. NORTHERN Missouri, in particular, boasts an abundance of black walnuts, but the trees grow well throughout the state. You may find them in bottomlands, pastures, or in dry, rocky forests. Most landowners are thrilled to have a healthy stand of black walnut trees growing on their property — for the edible nuts, certainly — but especially for the valuable timber. Black walnuts are one of the most recognizable trees in our state's forests. Open, rounded crowns top tall, straight trunks that can reach heights over 80 feet. Long, compound leaves are composed of 11 to 23 dark-green leaflets that have a very pungent odor when crushed. This same distinctive smell permeates all other parts of the tree as well, especially the green husk — also called a hull — that covers each nut.

When searching for black walnuts, look for the large, green, husk-covered nuts in the trees or on the ground. They're about the size and shape of a tennis ball. Each fall, walnut fans fill their woven mesh sacks with what many refer to as black gold. As with most harvests, some years produce abundantly, while other years are less bountiful. Many things factor into walnut production, including rainfall and insect damage.

Collecting walnuts can leave a brown telltale stain on your hands. To get to the nut, you first have to remove the darkening husk to reveal the deep-brown-to-black, grooved shell. Many people take their walnuts to local farm service centers to be hulled, but you can do it at home. A gravel driveway is a good place to spread out your walnut harvest to begin the process. Each time you drive in and out, your tires soften and crush the husks. Using a garden rake or hoe, you can separate the crushed husk from the hard shell. This process is usually followed by a drying period of a few days, after which you may store the walnuts in the shell in a cool, dry place.

Extracting the nutmeats is trickier, but worth the effort. This requires time, patience, a sturdy hammer or a nut cracker, and some nut-picking tools. My father once said nothing beats sitting next to a crackling fireplace in November picking out those black walnut "goodies." It allows time for you to reminisce about your autumn adventures and to look forward to tasty holiday desserts. Perhaps the hardest part is not snacking on them as soon as you pluck them from their shells. Be sure to save plenty for banana nut muffins, zucchini bread, black walnut cake, and homemade fudge.

GROWING THE HARVEST

If you would like to grow some of the state's native nut trees on your property, contact the George O. White State Forest Nursery in Licking about seedling availability. Order information and forms may also be found online at on.mo.gov/1KwTE1M.



PECAN



FOR MANY, THANKSGIVING JUST WOULDN'T BE THE SAME WITHOUT THE sweet flavor of pecan pie. A fresh, homemade pie that includes Missouri-grown pecans is a special treat.

The largest member of the hickory clan, pecans can grow to a height of over 100 feet tall. The trees grow best in rich bottomland soils along our state's streams. In this native habitat, they are found alongside other large river-bottom species such as American sycamore and ash. Like members of the walnut family, pecans have long, compound leaves and husk-covered nuts. Unlike the walnut, the pecan husk splits at maturity to reveal the smooth, light- to medium-brown, oval nut, which can measure 1 to 3 inches in length.

The nut of the pecan has its beginning in April and May when the flowers appear. All summer long, the nuts develop, and by October, they are ready to harvest. The pecan's naturally splitting husk and thin shell make it relatively easy to gather and process.

AMERICAN HAZELNUT

THOUGH NOT AS FAMILIAR TO MANY people as walnuts or pecans, Missouri's native hazelnuts provide a key source of protein for wildlife. Therefore, it is hard to beat the squirrels, chipmunks, bobwhite quail, and deer to these globe-shaped nuts, which are ready to harvest during the lazy summer days of August. The reddish-brown nuts are about the size of an acorn. They grow encased in fringed, prickly leaves, known as bracts. You may find them growing singly or in clusters of two to five. Hazelnuts grow in shrub thickets rather than on trees, so it's easy to miss the harvest.

Hazelnut shrubs grow up to 10 feet tall and can be found throughout Missouri. For me, it is easier to find the shrubs during early spring, when the twigs bear flowers called catkins. The drooping, brown male catkins can measure up to 4 inches long and stand out more than the shorter female flowers.

Make note of where you see hazelnut thickets blooming in the spring, then return in late July or early August. If the green bracts show brown flecks or brown edges, go ahead and gather them — otherwise wildlife will take them all before you



get a chance to check on them again. Store the green nuts in a cardboard box in a warm, dry place. Give them a stir every few days to keep them uniformly dry. When they ripen, the bracts will open and release the nuts. You can eat hazelnuts raw, but they're better toasted. Spread a single layer of kernels on a rimmed baking sheet and toast at 275 F for 15 to 20 minutes. Keep an eye on them because they can burn fast. To remove the papery skins, wrap warm hazelnuts in a kitchen towel. Let them cool, and then rub them in the towel to loosen the skins.



COOKING WILD IN MISSOURI

Written by retired Missouri Department of Conservation editor Bernadette Dryden, this 198-page cookbook includes 16 sweet and savory recipes using Missouri's hickory nuts, black walnuts, and pecans. Many of her other recipes also call for native tree nuts, including the hazelnut. The soft-cover book sells for \$15 plus shipping and handling and sales tax (where applicable). To order, call toll-free 877-521-8632 or visit mdcnatureshop.com.

HICKORIES

HICKORY WOOD GETS A LOT OF ATTENTION FOR ITS MEAT-SMOKING POPULARITY and its durability, which is useful in the manufacture of tool handles and sports equipment. The nut of the hickory tree, however, is often forgotten. Commercially, it is far less available than its close relative the pecan, even though the nuts can be just as flavorful.

Missouri's forests are a mosaic composition of oaks and hickories. The state boasts eight species of hickories. Some hickories produce bitter-tasting nuts, while others have a mild flavor. Hickories share many common characteristics — dark-green compound leaves, sturdy limbs, and gray-colored bark. Three species — shellbark, shagbark, and mockernut — stand out from the crowd for their production of large, sweet fruits.

Shellbark trees produce the largest nuts among the true hickories. The nuts are edible and can be substituted in any recipe that calls for pecans. Like all hickories, the nuts develop inside a husk, which can be as much as $\frac{1}{4}$ to $\frac{1}{2}$ inch thick. Once mature, this husk splits into four parts to reveal the smooth, light-brown, globe-shaped nut.

Locating shellbark hickory trees can take a little bit of time, as their numbers have declined over the years. First look in the trees' preferred habitat, which is rich, forested bottomland soils along streams. Then keep your eyes peeled for loose bark on rich, gray trunks. The bark tends to curl away from the trunk and makes a great hiding place for wildlife such as bats, lizards, and insects.

Shagbark hickories share many common characteristics with shellbark hickories, including gray, peeling bark, and an association with bottomland forest species. The nut is easy to crack and yields a very flavorful nutmeat that can be used for baked goods, such as quick breads, cakes, brownies, and candies.

Mockernut hickories do not have loose or peeling bark. In spring, just as trees begin to leaf out, the light-colored buds of the mockernut appear as the largest buds in the forest, often measuring $\frac{1}{2}$ to $\frac{3}{4}$ of an inch long. Mockernut trees grow throughout most of Missouri in dry, acid soil. The long compound leaves have three oversized terminal leaflets. The nuts are covered in a very thick, rusty-brown husk.

Hickories are a favorite food of fox and gray squirrels. They begin their harvests early in autumn, so go to the woods early, or you may find only husk wedges, empty shells, and damaged or hollow nuts littering the ground. ▲

ENJOYING THE HARVEST

If you are lucky enough to beat wildlife to the nut harvest, you will want to savor the flavor all year long. Nuts may be safely stored in the shell after they have thoroughly dried. To prevent loss, your storage area must be kept cool and moisture-free. You must guard against mold and pests such as insects and rodents. Shelled nuts may be stored in airtight containers for a short time in your kitchen pantry or for longer periods in your freezer.

It is easy and rewarding to make your very own trail mix. Using native nuts makes it extra tasty.

This recipe makes 6 cups of mix. Just combine all ingredients together and enjoy.

Homemade Energy Mix

- 1½ cups black walnuts
- 1 cup pecans
- 1 cup hazelnuts
- ½ cup hickory nuts
- 1 cup raisins or dried blueberries
- 1 cup dried banana chips

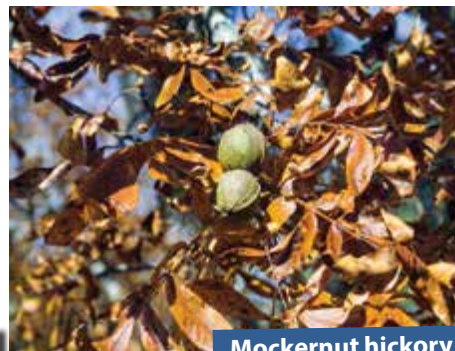
Gladys J. Richter is an interpretive writer from Richland, Missouri. She and her family enjoy many outdoor activities, including fishing, kayaking, and seasonal nature walks.



Shellbark hickory



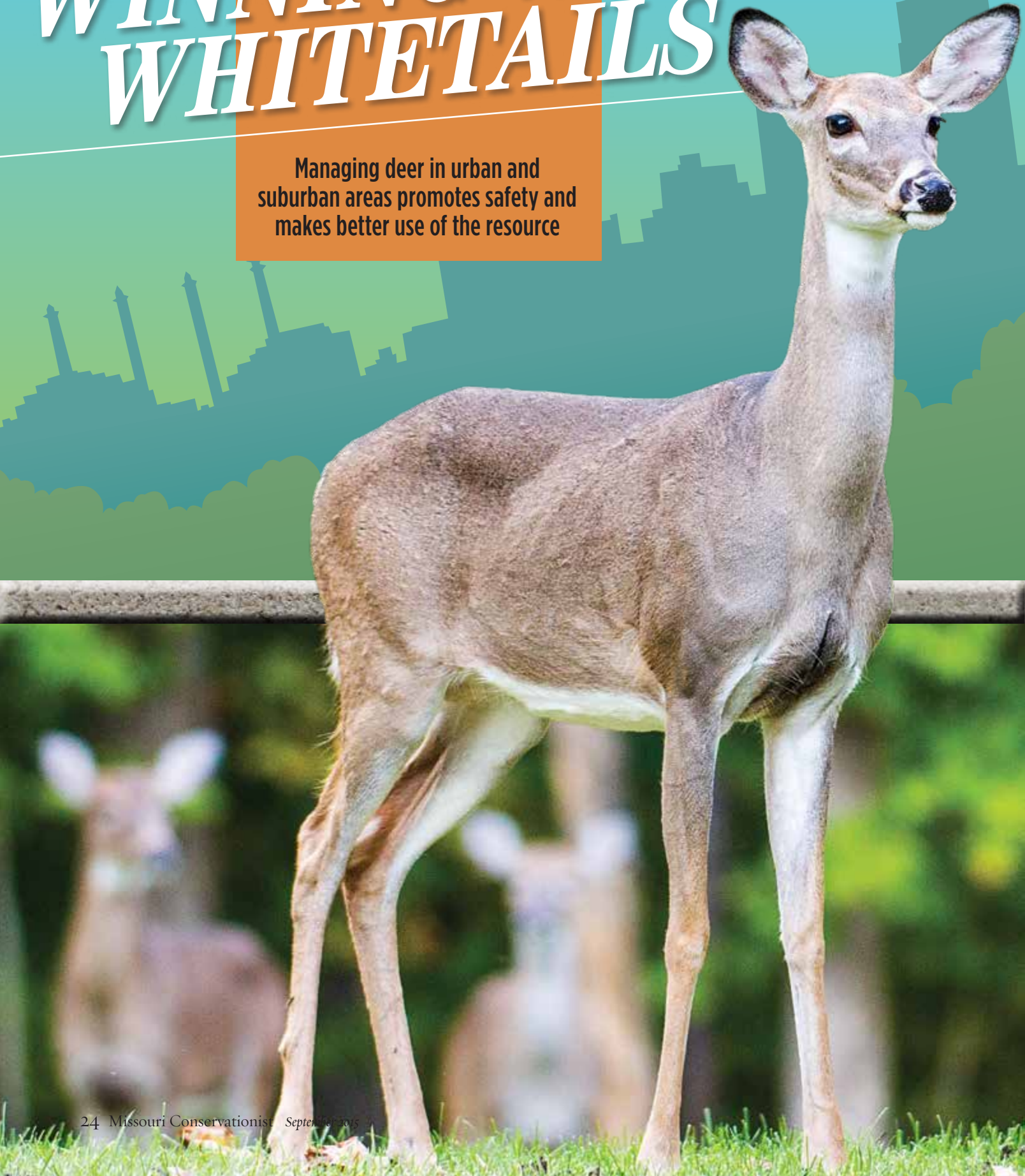
Shagbark hickory



Mockernut hickory

WINNING WITH WHITETAILS

Managing deer in urban and suburban areas promotes safety and makes better use of the resource





BY ERIN SHANK AND JOE DEBOLD
PHOTOGRAPHS BY NOPPADOL PAOTHONG

AS HUMAN AND DEER POPULATIONS IN MISSOURI simultaneously expanded and merged, increases in deer numbers occurred in suburban areas. Throughout the 1990s and 2000s, suburban communities provided excellent habitat for deer — food was abundant, reproduction was high, and hunting was restricted. Deer could live long and reproduce rapidly.

But managing urban deer isn't easy. Local ordinances prohibiting hunting, numerous landowners, and varying emotions and opinions related to deer make it a complex issue. Department of Conservation staff spend considerable time and effort working with urban and suburban landowners and community leaders to help find management solutions to urban deer issues.

In the process of tackling these management challenges, many Missouri communities have rediscovered the tremendous value that white-tailed deer have to society.

St. Louis Area

Ten years ago, deer management in the St. Louis metro area was practically a taboo topic. In fact, suburban deer management had become known as a conflict accelerator across many North American cities.

Today, St. Louis communities work to successfully manage deer in the suburban landscape and make use of the abundant whitetail resource.

Since 2004, nine municipalities in St. Louis County, which has large deer populations and had previously restricted the use of all archery equipment, have revised their local ordinances to allow bowhunting to harvest deer. One such community is the City of Sunset Hills, which includes a 4-square-mile area with 70 deer per square mile. The city allowed landowners to use archery hunting to manage deer, and the response was tremendous. Fifty landowners participated and harvested 54 deer during the first season.



“When we moved into Sunset Hills about 30 years ago, we saw an occasional deer, turkey, or even a fox,” said Mike Sawicki, who worked with the city’s deer committee to change the local ordinance prohibiting the use of archery equipment. “Now it is not unusual to see four or five in the subdivision while walking the dog.”

“We had hunters on our property the last two seasons. The hunters are fantastic, they worked hard, and showed great respect for being allowed to hunt on our property,” he added.

A Different Approach

Although the Department encourages the use of archery hunting as the most cost-effective

method for harvesting suburban deer, one particular Missouri community has taken a different approach. Partnering with Department biologists and agents, the City of Town and Country developed, adopted, and is implementing a community deer management program that uses sharpshooting over pre-determined bait sites within a 10-square-mile area. Over the course of six years, the city has harvested 777 deer. This effort has dropped

In early 2015, Department biologists collected the incisors of several old does in St. Louis County. Tooth analysis revealed that one of the deer was 18 years old.



Department wildlife biologists assist in the evaluation of deer population densities. They count deer with spotlights at night and gather additional data. Using data over several sampling events, statistical analysis can generate population density estimates.

the deer density from more than 65 deer per square mile to 37 per square mile.

The city has also paid the processing costs and donated all deer meat to Operation Food Search, a St. Louis-based central food bank that distributes to a network of Missouri food pantries. The donation of venison from the City of Town and Country to local food pantries now



Lowering deer numbers through harvest makes better use of the resource and reduces deer conflict.

totals 46,620 pounds. That's 23 tons of locally harvested meat helping to feed those in need, thanks to Missouri's suburban whitetails.

Fred Meyland-Smith has served as an alderman in Town and Country and pioneered the deer management effort there.

"We recognize deer as a wildlife resource and an asset to our town," says Meyland-Smith. "But the deer overpopulation presented a real hazard to human safety due to the exceptionally high incidence of deer-vehicle collisions. Beginning in 2009, we undertook a deer management effort, which has annually sought to reduce the herd to a more reasonable number, and made good use of this resource by donating the venison to a regional food bank."

Kansas City Area

The first documented nuisance-deer report in Kansas City occurred in 1978. In the early 1990s, Kansas City and surrounding areas saw a vast rise in deer populations, exceeding 100 deer per square mile by the year 2000.

Working with Department biologists, Kansas City implemented its urban deer management archery program in 2003. Today, the program consists of more than 900 archery hunters and encompasses 22,000 acres of land and continues to grow. Deer harvests from 2005 through 2014 totaled 4,541, or an average of 504 deer



harvested per year. The numbers indicate the overall success of the Kansas City urban deer management program achieved through archery hunting.

Since 2007, other metropolitan communities surrounding Kansas City have moved toward managing their urban deer populations. Most notably, Lee's Summit, Blue Springs, Independence, Parkville, and Platte Woods all have urban deer management programs that use archery methods.

Elsewhere in Missouri

Historically, as human populations increased, municipalities in Missouri developed ordinances that limited hunting within their boundaries for safety reasons. However, community leadership, communication, science, and perseverance have addressed concerns and demonstrated that archery deer hunting in the city is safe.

For example, a revised ordinance in Springfield introduced archery hunting opportunities within the city in autumn 2015.

Columbia has allowed archery hunting on specific city-owned properties, such as parks and utilities, for years without any major disruptions to other users.

Helping Urban Hunters Feed the Hungry

The *Share The Harvest* program has grown stronger every year as a result of urban deer harvests.

ADVANTAGES OF URBAN DEER HUNTING

- ✦ **Hunt close to home** — hunters don't have to travel away from home for long periods of time to hunt.
- ✦ **Harvest locally** — as compared to store-bought options, locally harvested game provides nutrition without the cost to natural and human resources.
- ✦ **Save gasoline** — archery hunters no longer have to drive long distances to pursue deer.
- ✦ **Feed the hungry** — urban hunters actively participate in *Share the Harvest* programs, which are important to local food pantries.
- ✦ **Sustain healthy deer populations** — hunting remains the best management practice for quality, biological management of white-tailed deer.
- ✦ **Alleviate landscape damage** — reducing urban deer numbers will also help to decrease the frequency of deer damage to ornamental plants.
- ✦ **Decrease deer/vehicle collisions** — reducing urban deer numbers will help to reduce the frequency of deer-related collisions on public roadways throughout urban and suburban areas.

In the past five years in Jackson County, urban hunters have donated an average of 2,177 pounds of venison every year. Conservation Agent Derek Cole facilitates and conducts the program in Jackson County and gives the venison to numerous organizations. For example, the groups that benefit locally from the urban hunters' dona-

tions are Seton Center, City Union Mission, Salvation Army, Heart of America Indian Center, Community Service League of Blue Springs, and the Raytown Emergency Assistance Program.

Once the venison arrives at these organizations, it has one last destination — the dinner table. Urban deer feed urban hunters, their families, friends, and those less fortunate. Hunters truly are helping to feed the hungry, and this further ensures that deer remain a natural resource that are fully used and appreciated. ▲

SHARE THE HARVEST

Missouri's *Share the Harvest* program helps deer hunters donate surplus venison to the needy. The Conservation Federation of Missouri and the Missouri Department of Conservation administer this program. Last year, 3,961 hunters donated 212,343 pounds of venison. For more information, visit on.mo.gov/1LAJvc9.

Erin Shank is the urban wildlife biologist for the Department's St. Louis Region. She enjoys spending time outdoors, camping, biking, and gardening with her family. Joe DeBold is the urban wildlife biologist for the Department's Kansas City Region. He enjoys outdoor recreational activities such as hunting, trapping, and fishing.



On a cold morning in January, a food pantry worker selects from 7,000 pounds of venison wrapped and ready for pick up. A dozen St. Louis-area food pantries will distribute the meat to Missourians in need. This particular stock of venison was harvested from Town and Country and donated as part of the city's plan to manage the abundant whitetails in their community.

Hummingbird Clearwing Moth

HUMMINGBIRD CLEARWING MOTHS (*Hemaris thysbe*) are often mistaken for hummingbirds. In flight, the moth's wings mimic those of bumblebees or hummingbirds, beating rapidly at 25–30 beats per second, and are nearly invisible to the human eye.

I usually encounter these hummingbird-like moths unexpectedly, while photographing flowers or insects in a field. They often buzz by me so quickly that I don't have enough time to react, much less compose a good image. To get a clear shot of this fast-moving moth in flight, you'd need a fast shutter speed in the right setting, a macro lens to allow a closer focus than a normal lens, and a good flash. In other words, you must be ready to photograph them. So when I ran into one hovering over a patch of flowers, I decided to get ready and give it a shot.

The hummingbird clearwing moth is one of 125 moths in the sphinx- or hawk-moth family (Sphingidae) that inhabits North America. Of these, 56 live in Missouri. Sphinx moths or hawk moths, like hummingbird clearwing moths, are known for their strong and rapid wing beats and swooping flight, and are among the few groups of insects that can hover.

There are three similar types of sphinx moths — the hummingbird clearwing, the snowberry clearwing (*Hemaris diffinis*), and the slender clearwing (*Hemaris gracilis*). Only two, the hummingbird and snowberry, are common in Missouri, while the slender clearwing is found in eastern parts of the United States.

While most sphinx moths feed at night, hummingbird clearwing moths prefer to feed during the day. Like hummingbirds, they fly in a quick, darting manner and hover over flowers while sipping nectar with a long, thin proboscis. With its furry body, the moth helps pollinate flowers, and it's the primary pollinator for some species of orchids.

Males have flared tails that resemble hovering hummingbirds. One noticeable difference between the moths and the hummingbirds is their size — a hummingbird moth is usually half the size of a hummingbird.

They can be found in a variety of habitats, including open field meadows, forests, or urban gardens. Even though they start flying in spring, you're most likely to see them between June and August when their favorite flowers contain the most nectar.

If you happen to find this interesting moth in your garden and want to try photographing it, follow these tips:

- Use a mid-range shutter speed — such as 1/250 — in manual setting, a macro lens, and a flash — multiple, if possible.
- Stay low and move slowly.
- Pay attention to the moth's movement.
- Locate several flowers it likes to visit. Take note of the time because it's likely to make a return appearance.

The next time something buzzes by you, don't just assume it's a bee. Take a second look — it might just be a hummingbird clearwing moth.

—Story and photographs by Noppadol Paothong

📷 (main) 150mm lens • f/11 • 1/250 sec • ISO 800

📷 (inset) 150mm lens • f/11 • 1/250 sec • ISO 800

We help people discover nature through our online field guide. Visit on.mo.gov/1M3cWgI to learn more about Missouri's plants and animals.





Seventy-Six Conservation Area

Forested river hills and Mississippi River frontage make this Perry County area a must for river fishing, hunting, hiking, and bird-watching.

SEVENTY-SIX CONSERVATION AREA has a rich history. In the mid-1800s, a riverboat pilot named John Wilkinson, who established a landing selling wood to riverboat traffic, developed the area along this stretch of the Mississippi River. No one knows why Wilkinson named his landing Seventy-Six, but many have speculated. His first land purchase in the area was 76 acres. He also had family in Alton, Illinois, which was 76 river landings from Seventy-Six. Locals say he sank his boat there on his 76th voyage (though there is no official record of it). The area grew over the next generation to include a saloon, post office, general store, and an extensive fruit orchard. But as the river and rail became less crucial ways of travel, the town faded away. A few generations later, the Klobe family managed the property for agriculture and conservation practices in the 1980s. With help from longtime Department Forester Rick Kammler, the Klobes developed a sustainable forest management plan that is still used today. The Department purchased the area's 818 acres in 1990.

Today on Seventy-Six, visitors can see 100-foot cottonwood trees where the general store once stood. Over a mile of Mississippi River frontage offers a boat ramp, river frontage for fishing, and a primitive campground. A good way to explore the hills and hollows of the area is to walk the Wilkinson Trail. This 3-mile loop meanders through mixed hardwood forest, woodlands, and open fields. The fields on the ridges are managed for a diversity of habitat, offering wildlife-viewing opportunities and beautiful vistas of the river valley. Managers



17–40mm lens • f/8 • 1/20 sec • ISO 800 | by Noppadol Paothong

use tree thinning and prescribed burns on woodlands to increase the diversity of plants for wildlife. The area also features karst topography, a kind of landscape formed by water dissolving underground limestone or dolomite. Resulting sinkholes, sinkhole ponds, and springs offer unique habitat for wildlife.

The majority of the area is composed of well-drained, deep-loam forest across steep river hills. Here you will see mixed hardwood stands of yellow poplar, sugar maple, a variety of oaks and hickories, walnut, Kentucky coffee tree, black cherry, white ash, and basswood. These areas also have a diversity of wildflowers in the early spring that give way to a dense understory of pawpaw and spicebush in the summer. Birding is great on this area, especially during migration as warblers and other migratory birds use the forest along the river.

Seventy-Six is an excellent representation of the Mississippi River hills of east Perry County and a great conservation area to visit for hiking, birding, hunting, fishing, and river access.

—Mike Keeley, area manager



Seventy-Six Conservation Area

Recreation Opportunities: Hiking, hunting, fishing, wildlife viewing, outdoor photography, bird-watching, camping

Unique Features: Mississippi River frontage, karst topography, steep forested river hills, 3-mile scenic hiking trail

For More Information: Call 573-290-5730 or visit mdc.mo.gov/node/a9112



MDC DISCOVER nature

To find more events near you, call your regional office (phone numbers on Page 3), or visit mdc.mo.gov and choose your region.

BOW BUILDING

SEPT. 3-5 • THURSDAY 5-9 P.M.

FRIDAY AND SATURDAY 8 A.M.-5 P.M.

Ozark Region, Twin Pines Conservation Education Center, RT 1 Box 1998, Winona, MO 65588

Registration required, call 573-325-1381

Ages 18 and older

Challenge yourself to build a hickory longbow using only hand tools in this three-day course. Most participants will be able to shoot their bow before they leave.

DAY ON THE RIVER

SEPT. 12 • SATURDAY • 9 A.M.-4 P.M.

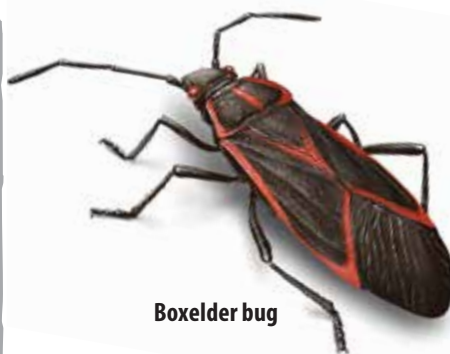
Southeast Region, Cape Girardeau

Conservation Nature Center, 2289 County Park Drive, Cape Girardeau, MO 63701

No registration required, call 573-290-5218 for information

All ages, families

Discover what the river has to offer. Hands-on activities will teach you the importance of the Mississippi River and surrounding wetlands. This event is fun for the entire family and features live river animals, Asian carp samples, and free boat rides on the Mississippi. Boat rides will take place every half-hour (except from noon-1 p.m.) at Riverfront Park. Youth and adult groups welcome.



Boxelder bug

INSECT-O-RAMA

SEPT. 12 • SATURDAY • 10 A.M.-NOON

Northwest Region, Northwest Regional Office, 701 James McCarthy Drive, St. Joseph, MO 64507

No registration required, call 816-271-3100 for information

All ages

Come and learn about bugs. We will have many different species of insects.

NATURE NUTS

SEPT. 12 • SATURDAY • 10-11:30 A.M.

Ozark Region, Twin Pines Conservation Education Center, RT 1 Box 1998, Winona, MO 65588

Registration required, call 573-325-1381

Ages 7-12, families

Join our Nature Nuts crew as we head out for a guided tour of Peck Ranch Conservation Area in hopes of seeing elk.



IDEAS
FOR
FAMILY
FUN

MENTORING IN THE OUTDOORS

SEPT. 13 • SUNDAY • 4:30-6:30 P.M.

Kansas City Region, Parma Woods Shooting Range & Outdoor Education Center, 15900 NW River Road, Parkville, MO 64152

Registration required, call 816-891-9941

All ages

One of the greatest joys of spending time with family and friends is the memories you will make. However, sharing your love of the outdoors with someone new can be challenging. Let our experienced mentors help you flatten that learning curve and make the process more enjoyable for all.

THE ATHLETE OF THE BIRD WORLD

SEPT. 19 • SATURDAY • 8:30-11:00 A.M.

Kansas City Region, Burr Oak Woods Conservation Nature Center, 1401 NW Park Road, Blue Springs, MO 64015

No registration required, call 816-228-3766 for information

All ages

See a male ruby-throated hummingbird up close. After an injury, it couldn't be released so it is here to help teach people about the only hummingbird that breeds in Missouri. Discover special adaptations that truly make it the athlete of the bird world. Join special guest Veronica Mecko from the Missouri River Bird Observatory as she bands these tiny athletes.



Ruby-throated hummingbird



Subscribe online • on.mo.gov/1E6osBA • Free to Missouri households



I Am Conservation

Brett Jeffryes, disabled during service in the U.S. Air Force, owns 300 acres in Dallas County on the Little Niangua River. A year after he purchased the property in the early 1990s, a big rainstorm washed away some of the stream's bank and started a continuous erosion problem that has resulted in 70 feet of lost topsoil and bank. Jeffryes received technical and financial assistance from the Missouri Department of Conservation and the Missouri Conservation Heritage Foundation on a project to control erosion by constructing rock weirs and reinforced stream crossings. "Working with the Department has been a good experience," said Jeffryes. "It has been a blessing to have the weirs and they have stopped the erosion. It has been a learning experience and my disability adds a few more concerns that I made sure I addressed and planned out." He said he wanted to preserve his property values as well as maintain the ability to fish from his wheelchair and improve stream health. "It has been a good experience," said Jeffryes. "I wish I had done it 15 years ago. I would have saved many feet of erosion and kept my property values higher." Jeffryes said that after the positive experience of working with the Department, he is now considering a future wetland project on the property. —*photograph by David Stonner*